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the middle of June until September. When the harvest is abundant, invitations are sent to the neighboring Walapai, Navaho, and Hopi to join in the annual dance, a week of festivity. In the course of gambling and trading, another link is fixed in the trade route that runs from Oraibi and the Navaho settlements, through the Havasupai and Walapai, to the Mohave in the west.

The harvest in, mesquite and local seeds gathered, there is no further attraction in the canyon. In the middle of October the exodus to the plateau begins. By single families, or in groups of two and three, they go off to establish snug camps in the denser cedar thickets. These are semi-permanent, for they move from time to time as piñon nuts are reported growing thickly in one glade, wild seeds abundant in another locality, or hunting good near the mountains. When the snow falls, rabbits, deer, and antelopes are easier to track. During this season they live in part on corn which they have carried up from the canyon, and from time to time replenish from the granaries there. As spring comes they drift back, perhaps along the ledges of the Grand Canyon, to resume life in the village.

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with holes opposite those in the first. (Actually the spacing is not very regular). Thus groups of plants grow about a meter apart in both directions. Fields are irregular in outline. Several men might plant one field, the others following the leader's spacing. They do not repeat the invocation. The land is irrigated about two days before planting. They begin to plant in the middle of April and finish two months later; the precise time depends on a man's whim. If corn is planted in the middle of May the shoots will appear after four days, but later planting requires five days. In a month it is half a meter high; it then receives a second watering. When the tassel appears after two or two and a half months it is given a third and last watering.[1] The attention required by the growing crop is not burdensome; of course the fields must be weeded, traps placed for the ground squirrels and rats who would otherwise uproot the corn, etc. The hoe is a wooden spade-shaped affair with a disproportionately long narrow blade with a handle in the same plane. This is used to scrape up the sand into ridges when irrigating and for scraping out weeds. The shoulder blade of a horse (never a deer) is also used for the latter purpose: this is held in the hands, not hafted. The corn ripens in about four months. Plants bear two and sometimes three ears to the stalk. Only the ears are collected, although the stalk with the ears attached is sometimes taken (for fodder?).

According to Sinyella there were only two varieties of corn before he was married (1860–70), then others were acquired from the Hopi. These two were *teyā'ljlpa''*, with kernels mostly red with a little white, and blue corn, both of which, but particularly the first, are accredited to the culture heroes. The modern varieties recognized are white, red, yellow, black, white and red (*n„msavïghuwätä*), white and blue (*n„msä'vïgwasú*), all of which are named by color, and black and white (*n„údä*, spotted). A very small variety (*Zea arnylacea*), with ears about 12 cm. long, known as Mohave corn, is also grown, yielding ears in two months. These have been traded from the Mohave through the Walapai. The blue corn is planted first, because it ripens quickly. Each color is planted alone in a field, even in a large field which is given over to several varieties. The colors of adjacent varieties mix, but no reason is offered for this. One color is not preferred above another for its taste, but wafer bread is made of either white or blue, but not of mixed corn. Long, well formed ears are selected for seed. About twenty such are said to be needed to seed an acre, but this does not seem enough.

[1] Mr. Gessler, a first-rate farmer, tells me that this system of irrigation is proper; corn planted in late May matures in sixty to seventy-five days.

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plain twining alternate with wider bands of diagonal twining. Contrast is also obtained on the same baskets with three strand twining, since rows of this stitching are raised above the surface of the basket. The bands of three strand twine are uniformly very narrow; usually only one or two rows. Water bottles are commonly decorated in contrast twining, although they are subsequently pitch-coated to an extent which obliterates the decoration. I can see no other reason for this display of unfruitful energy than exuberant interest in utilizing a controlled technique and producing a pleasing effect for the moment. Only a very few are ever kept or traded without the pitch coating.

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Designs (*tĕnyúñgá*, a so tattoo marks, face painting) are woven in twine and coil baskets with black martynia. These do not represent objects, and in fact, the women repudiated the idea that any meaning might be read into them.[1] There are no recognized design units nor design names: the women did not seem inclined to speculate about them. All the designs are extremely simple.

Twine trays are decorated with a single circular line, one row wide, or with the same line with short spurs, usually oblique, either on the inside or outside, resembling a cog-wheel with oblique teeth. The same series of teeth are used without the base line. Other decorations are a central circular area, filled solid; a horizontal zigzag line; or simple combinations of any of these. Burden baskets have one to three decorative bands around the upper third; using the same units (except the solid circle) and in addition a band of equilateral triangles, usually filled solid, and with basal angles in contact, or with bases or vertices touching a narrow line running around the basket. A band of two opposed dentate lines is frequent. Water bottles do not have design decorations.

One curious feature is a disinclination to decorate that part of the burden basket which will rest against the back and so will not be seen. The first, i.e., the lowest, band is usually carried around this portion as well, but subsequent bands are progressively executed with increasing carelessness or omitted entirely at this point. (Fig. 7.) This, of course, is contrary to the spirit which accounts for the decoration of water bottles in contrast twining.

A few baskets have the spurs of the dentate bands vertical, that is, following the warps. In all other cases observed, with one exception, the spur lies obliquely in the direction of twining, that is, with its lower end nearer the weaver's left hand and inclining upward to the right. Nearly all such designs are in diagonal twine. I think we have here a clear case of the influence of technique on design. In the first place, the

[1] This does not prevent them from providing interpretations for the tourist trade.

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323 has burned down, the coals are raked away from the center, the pot set right side up on the ground, and buried, inside and out, in coals. A small amount of brush is then set ablaze on top of this, presumably to create a draft. After baking all day and night, the pot may be removed next morning. Only one pot is fired at a time. These vessels are said never to have cracked in firing.

[252] Cornmeal mush is always the first thing cooked in the vessel. A ladle full is given to every comer, more being cooked in the same pot as the supply wanes, in the spirit of ascribing inexhaustibility to it. Pots are supported on three stones when cooking.

[356] Sometimes the bottom burns when cooking so that fine cracks appear, although the vessel does not break. A sort of "alkaline clay,"[1] obtained from the creek bed, is smeared over the faulty spot, beyond which no further attention is required.

[439] Pottery is obtained from the Hopi for storage uses, but not for cooking.

[276] Clay pipes (*dmal'há'u*) are made of material obtained from the creek bed. The bowl, 5 cm. high, is fitted with an arrow reed stem, 7.5 in. long, in one side. Cigarettes (*wdtamákwi'dtgá*) are made of cornhusk, but not of reeds.

Skin Dressing

281 [462] [439] A Havasupai man's sole specialized product is the tanned deerskin. It is strictly a sex-limited industry, the handling of the skin from flaying the carcass to the finished moccasin or woman's dress is man's work alone. It is also the chief article of trade, which is, on the whole, another male activity.[2]

The fresh skin is stretched on the ground hair side down, with large stones on the neck, tail, and legs, and with smaller ones along the edges. After four or five days of drying in the sun it is as stiff as a board. If the skin contains much fat, it is dried in the shade, otherwise it will putrefy. The rawhide is sprinkled with water until it can be rolled into a loose cylinder, in which condition it can be stored for future use for as long as three or four months, by which time the insects will have gotten at it.

To dehair the rawhide, it is tied down in the creek to soak for a day and night. Dehairing commences with the dawn the next day, not because the sun would dry the hide, but because the process is laborious.

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[1] Unidentified: the creek is heavily charged with lime salts.

[114] [2] Cushing observes that these people are famous among other Indians for their buckskins [(a), 533]. I fail to see any superiority over the products of neighboring tribes, or those of other North American Indians represented in museum collections.

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Campfires on the plateau are not banked at night, but heaped with sufficient wood to last until morning. 372

Ladles. These are said to be made of mountain sheep horn (*mukwd-vëtï*) alone, although Cushing saw small wooden ladles.[1] The typical ladle (*mukwa'*) has a round, shallow bowl, 12 cm. in diameter, with a curved handle. A smaller dipper, 15 cm. long, has an oval bowl with a short handle (20ab). After the handle is hacked and trimmed to size, the horn is soaked and buried in wet sand from three to six nights or until it is fairly soft. The grease of the mountain sheep and the mountain lion are rubbed into the horn, which is warmed at the fire. The handle is then bent into shape. To form the bowl, the top of the horn is split, 321 415

Fig. 20 a (50.2-1585), b (50.2-1217). Mountain Sheep Horn Ladles.

the sides wedged apart with a stick, and the edges trimmed. The bowl is filled with dirt, carefully propped up, and laid aside for a week to harden. As these are used to serve hot liquids, the bowl relaxes to its original shape. The Hopi, who take these ladles in trade, cut disks from them, which they flatten and bore for spindle whorls.[2] [439]

Gourds. Gourds (*a'ndle*), grown in the canyon, are infrequently used as water vessels. These are a long-necked variety, 25 cm. or less in diameter. The stem end of the neck is cut off square and stoppered with grass, crushed cedarbark, or a corncob.[3] A handful of kernels is placed in the new gourd and given an occasional shake to remove the loose fibers. 415

[1] Cushing, (a), 880.
[2] Such ladles are widely distributed: Hopi and all other pueblos (Hough, (a), 278); Paiute example in the Peabody Museum, Salem, Mass.; Wind River Shoshoni (Lowie, (b), 309.) [171]
[3] The Mohave use similar gourds to carry grain on journeys (specimen in Museum of Anthropology, University of California).

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322 411 is then 3 to 5 cm. through. Shaping proceeds without waiting for the pole to season. A good bow should bear a dark streak (medullary ray?) along its inner face, not on the back: such a bow will not easily break. The pole is cut to the proper length for a bow, six spans (thumb to middle finger), measured three toward each end from the middle. Some bows are only five spans. After the bark is removed, the pole is trimmed to the lines shown in Fig. 22, leaving the back in its natural state. Frequent sighting along the bow keeps the trimming symmetrical. The [412] cutting is done with a stone knife and finally rubbed smooth with a grit-stone. The width at the grip should be that of two fingers (first and middle fingers lying flat); at the ends one finger wide. Its thickness is not measured. Fiber tension in the green bow gives a marked curve opposite to that when strung. The bow is set aside to season for a month: if it is strung sooner it is likely to acquire a permanent curve. When ready for stringing the nock is cut into the edge at a convenient point. There is no wrapping for a grip, nor are decorative marks or paint applied.

411 322 237 Oak is used as well as ash for sinew-backed bows (*mēsmâ*, sinewed?): it is grown in the same way. Mesquite is also used, if it contains a dark streak. The bow resembles the self bow, but it is somewhat shorter, five spans, and only half as thick, although the width is the same. After seasoning for two months or more until it is thoroughly dry, it is ready for the sinew reinforcement. Nocks are first cut. The back is scraped as smooth as possible and fine lines are scratched on it longitudinally, [412] using a stone flake with a serrated edge. After glue is applied over half the back, a broad sinew is laid on beginning at the middle, stretching it toward the tip. This is rubbed in the same direction with a smooth stick in order to make it adhere. The process is repeated for the other half of the bow, the sinew layers lapping at the middle. Three more layers are similarly added, setting the bow in the sun to dry partially before each application. The sinew extends over the back quite to the inner face. The first two layers are brought over each end and down the face for about 1 cm. The ends of the last two layers are left free, but twisted together. A sinew is bound in the nocks to hold the sinew backing fast. When dry, the grip is bound with a buckskin thong, centering slightly [439] below the middle. Red cloth, obtained from the Hopi, is passed back [531] and forth longitudinally through this binding on the inside face, to produce a checkered effect. Red paint is used in default of cloth. The 411 sinew layers part from the wood when the bow is old. This is checked by 237 binding at intervals with sinew. This bow is always kept strung, al-

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is a coat, split down the front, and lacks the front flap (Fig. 37). All seams are sewed with a running stitch; the two raw edges of adjacent parts which protrude on the outside are slit into fringes. Two pieces to be cut into long fringes are inserted in the seam under each sleeve. The only other decoration is on the triangular flap (*makŭapéva*, collar tail). Some of these are beaded (*sogoúla*, beads), the design having no significance. Others have a narrow green line (using a copper ore) painted around the margin and all are fringed. Another type of shirt was even more definitely a poncho. A buckskin was folded in half, a slit cut for the head, the legs cut off and sleeves added, and slit down the front like a coat.

Warmer shirts are made of deerskins, tanned with the hair on, and worn with the hair side out.

The breechclout is a strip of buckskin or cotton cloth obtained from the Hopi,[1] about 30 cm. wide, and with short flaps hanging over the belt cord fore and aft.[2] These flaps are never decorated. Breechclouts are worn at all times, even with trousers, when the flaps hang inside.

Trousers (*dgdl mĭkŭál*, buckskin trousers) are patterned ultimately on early Spanish models; short waisted, knee length, and open at the knees. One type is cut from a doubled deerskin (Fig. 38); one of the duplicate pieces, the front, is then cut in two from waist to crotch. The seams are down the inside and outside of the leg; the waist is gathered somewhat; and a separate belt, 5 cm. wide, is added. This garment hangs just below the knee; the outer seams being open for a short distance along the leg. The trousers are open in front, failing to meet at the belt by about 10 cm., but this is covered by the breechclout. A second type has a triangular piece inserted in this space; this is then split. In this type the sewing of the outer seam is not continuous, and silver buttons are also added for decorative effect.

Some men affect Navaho dress; the knee length leggings bound with woven ribbons, the broad belt with silver bosses, the silver studded wristlet, rings, and the turquoises and shell necklaces of the Pueblo and Navaho.

The woman's dress is really two aprons; that in front reaching from breast to ankles, that behind hanging from the waist. These are belted with a Hopi woven belt. The front piece resembles a butcher's apron; a deerskin is hung from the neck by a broad loop, with a thong holding it about the waist[3] (Fig. 39). The neck of the skin is turned

[1] Neither the cotton sometimes grown in the canyon nor mountain sheep wool are woven.
[2] The Havasupai state that the Mohave use long flaps.
[3] Cushing, (a), 548.

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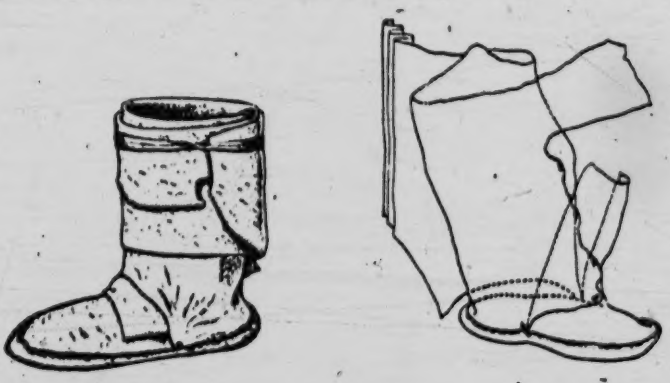
281 this warp at intervals of 5 cm. Blankets are fairly rectangular; speci-
286 mens measuring 75 by 125 cm.; 125 by 140 cm., and a mattress 65 cm. square. The sixty rabbitskins or so necessary for a good-sized blanket are gathered from time to time. The skins are not tanned. Such blankets are quite heavy. Women do not like to go without their shawls, [291] at least outside the camp, but I doubt that the sentiment is as strong as [171] at Zuñi.[1]

Hard sole moccasins are the universal footgear.[2] Women sometimes
291 wear the man's type, but their regular style is like that of Pueblo women,
294 with a long upper which is wound around the leg. The man's moccasin



a b

Fig. 43 a (50.2-1276a), b (50.2-1277a). Woman's Moccasins with Ankle Flaps.

consists of two pieces. The sole is made of the neck skin, the thickest part of a deer hide. In all types the sole comes well up the sides and toe, being shaped and puckered. Three styles are used in the upper of men's moccasins (*mahányó°*, sing. or pl.). The commonest is a single piece lapping at the outside of the foot, where it is fastened with Navaho ● [439] silver buttons (Fig. 41).[3] A short thong is tied through upper and sole at the bottom of the opening for reinforcement. A second type also has a single piece upper, but so cut as to form a short tongue, which the upper laps at the inside of the foot (Fig. 42). The third type resembles that of the

[1] The modern shawl hangs to the heels like that of the Colorado River tribes. It is formed of four handannas sewed together. Two corners are tied under the chin. The modern dress is also like that of the river people. An undershirt is universally worn.

[2] Neither one-piece moccasins, sandals, nor basketry shoes are made.

[3] This is the type shown by Wissler, (a), Fig. 97, for the Zuñi.

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so that it can be turned up and puckered. Sinews are chewed and rolled on the thigh. The toe-tongue is then sewed to the sole with these, beginning at the toe and working toward both sides (Fig. 43). The stitching is concealed; the sinew passing but partially through the two pieces of hide. The ankle flap (D), from which legs and fragment of neck are roughly trimmed, is fitted to the leg; a line being drawn on it around the heel between the midpoints on each side of the foot (E). The ankle piece is now sewed to the sole along this line; the long free end being on the inside of the foot. Little reënforcement thongs are inserted on each side where the uppers meet the sole. The upper edge of the ankle flap is serrated: this edge is turned down outside when the flap is bound about the ankle.

Fig. 45 (50.2-1280a). A Buckskin Overshoe for use in Snow.

An overshoe (*mahanyákwáva*) for use in the snow[1] is made of an oval piece of buckskin extending 15 cm. beyond the sole on all sides. A thong runs through holes around the edge. This is stuffed with soft, crushed cedar-bark and drawn up around the moccasin. These are also attributed to the Walapai. Another type (Fig. 45) but little larger than the ordinary moccasin is really a one-piece moccasin to which a hard sole has been added. The upper is sewed from toe to instep and part way up the heel. This leaves two flaps which stand about the ankle above the tie-thong which is threaded through holes cut but a little above the sole.

Personal Ornamentation

Havasupai styles of personal decoration are not extravagant: hair dressing, painting, and tattooing are only moderately developed.

Men wear their hair full length, to the small of the back, parting it front and back at the ears. The front hair is banged across the forehead just below the eyebrows, leaving the hair at the temples to be cut off on the level of the nipples. The long back hair is bundled back and forth on itself to lie at the nape: the knot (*gúdakóva*) is bound around with a fibet,[2] a woven ribbon of Hopi or Navaho manufacture, or a band of buckskin. The last is broad enough (6 cm.) to conceal the entire knot

[1] Netted snowshoes are not known.
[2] Cushing, (a), 548.

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rule, use their fingers. Some attention is given to washing the hair with yucca roots, but not that of the Pueblos. A little mountain sheep grease worked up in the hands is rubbed on the hair to make it shine.

According to informants, hair cuttings are burned so that the birds cannot use them in nest-building, which the natives would not like. But I noted that hair clippings were left strewn about the camps. No care is taken of nail pairings.

Older men wear scanty beards and moustaches, but facial hair is usually plucked out, except from the tender spot under the lower lip.

Necklaces are worn by both children and adults. They are not made locally but obtained from the Mohave through the Walapai. Arrowheads are strung on them, or a single specimen is hung about the neck on a thong, or sewn to the shoulder of the shirt, like an epaulet, to prevent sickness and bad luck.[1] One specimen (50.2–1621), modern in type, but showing affinity with the Colorado River tribes, is a single string of trade beads, alternately blue and white in centimeter lengths, from which hangs a roughly crescentic shell pendant. Usually such necklaces consist of many strings similarly arranged. Men also wear the shell and turquoise type obtained from the Navaho and Hopi.

When infants are one day old, the lobes of their ears are pierced by a relative or friend with a sharp twig. A cotton cord is looped through to keep the hole open and deer or mountain sheep grease smeared on to soothe the pain. The action is said to be ornamental in intent, and without esoteric significance, but piercing the ears is supposed to prevent deafness—despite an obvious example to the contrary! Ear pendants are worn by persons of all ages. These are turquoise or abalone beads hung on short cotton cords obtained from the Hopi; 5 cm. long for men but 15 cm. for women, so as to hang level with the collar bones.

Huge earrings of silver or beaded cactus thorns, plugs of colored wood, or buttons are stuck into the ears, which are pierced one, two, three, and four times.[2]

Beside those of silver, bright red finger rings are made of the flat spines of the barrel cactus. Holding the spine between thumb and forefinger, a brand is touched to its middle, until it can be sprung into a ring (*sŏltŏrĭtăkŏ*; *sŏl*, finger, hand; *dĭdĭd*, barrel cactus spine). These are purely decorative.

While face painting (*djidĭvĭgŏ*) is indulged in by both sexes and all ages, it is neither very brilliant nor in daily use. To be sure, girls paint themselves more frequently than matrons in order to enhance their

[1] But not especially to ward off lightning, as among the Hopi (Hough, (a), 288).
[2] Cushing, (a), 548.

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but he would not attempt to kill him. He would kill the man's horses. Anybody might interfere to put a stop to this. Another informant said that the guilty woman would be beaten and divorced: her husband would keep their children. 586 [684]

Divorce for barrenness had never been heard of. If a wife proved barren (*plk'ig!0dalādj*, barren women) the husband would take a second wife in order to have children. A quarrelsome wife, one who pulls her husband's hair, bites, scratches or pinches him, destroys his property, etc., would be turned out. [595]

If a man maltreated his wife, beat and stunned her, her relatives would interfere, admonishing him to treat her well. She might retaliate by throwing away the food she cooked, or in an extreme case by running away to her parents or to another man. If a girl returns to her parents without cause, her mother would send her back. A Havasupai woman married to such a Walapai runs away every year with a different man, though the Indian police bring her back to her husband. The Havasupai consider her justified; their head chief, taking over the function of the agent, recently married her to another Walapai. However, it is generally recognized that she is a light character. 593 684

Marriages were not often contracted with foreigners. The situation today represents the condition fairly well: there are six Walapai women and one Yavapai married to Havasupai, while a few natives are wives of Walapai. Walapai women are considered the marital equivalents of native women; a view undoubtedly induced by a unity of culture, speech, blood, and by friendship. I was told that Hopi women were never married, but Cushing saw one there in 1881.[1] Occasionally Paiute and Navaho women were married.[2] Other tribes were too distant to furnish wives. Havasupai men did not steal girls from other tribes because it was too dangerous. I doubt that Yavapai women were married in the old days, because they were the chief enemies. 582 648

Walapai and Navaho girls were married when they accompanied their families down into Cataract Canyon to trade at harvest time. Such women sometimes stayed only a short time and then went home. In such marriages a Havasupai man did not live and work with his wife's parents. Alliances of this type might be casually formed, as in the following instance of a lost Navaho woman told by Sinyella. Illicit relations with Walapai, Navaho, Hopi, and Paiute were common. [439] [586] [837]

When I was so big [about fifteen years old] we were camped just a little above Lee Canyon: many Havasupai were camped up there. Six or seven men, my father,

[1] (a), 551.
[2] Walapai and Paiute are said to intermarry.

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the direct route across the head of Cataract Canyon. He found the Havasupai well supplied with red cloth, iron tools, cows, and horses from the Spanish settlements in New Mexico obtained through the Hopi, for in fact the Havasupai camps on Moenkopie Wash provided a readily accessible trading station. On the return journey, he was accompanied by Havasupai going to the Mohave to trade mantas, leggings, and pieces of cowhide for "shells—only for white sea-shells, for no others do they receive in exchange."[1]

439

The exchange value of articles in the period 1840–65 gleaned from Sinyella's and Manakadja's reminiscences, is as follows:—

Havasupai:	Big blanket	—*Mohave:*	Young horse
	Saddle blanket	—*Paiute:*	Two skins of good-sized bucks
	Tray of shelled corn	—*Navaho:*	Saddle blanket
	Small burden basket of shelled corn	—	Big blanket
	Biggest burden basket of shelled corn	—	Horse
	Two bundles of dried squash		Big blanket
	Small tray of beans		Good-sized blanket
	Two buckskins and a little corn	—	Horse
	Big blanket	—*Ute:*	Gun
	Fair-sized buckskin Ten silver buttons	—	Ten small charges of powder Ten bullets Ten percussion caps
	Big blanket	—*Walapai:*	Three buckskins
	Decorated blanket (all-over pattern of black lozenges, each containing a dot: *dätwlttcädlvd*)	—	Four buckskins
	Four blankets	—	Horse
	Five blankets	—	One good horse
	Large and small buckskins	—*Hopi:*	Large blanket
	Seven or eight buckskins	—	Horse
	Ten buckskins	—	Race-horse

[1] Cross, 319, 320, 326, 334, 337, 339, 340, 345, 357, 410, 414.

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439 The rate paid by the Navaho is probably abnormally high as their demand for foodstuffs exceeded their ability as refugees to pay.

Trade was not solely in the hands of the Havasupai. The abundant harvest and the attendant dances in the canyon provided a strong incentive for visiting and trading, especially to the Navaho and Walapai. The Walapai also traded directly with the Hopi of Oraibi. Journeys to the Walapai for visits, dancing, and trading, were frequent. On the whole, trading was incidental to other pursuits, and, considering the relatively small amount that changed hands, was little more than an exchange of presents and the profits of gambling.

177 439 648 554 Trade visits, etc., provide an effective mechanism for culture exchange. But more particularly participation in intertribal relations and the acquisition of knowledge of the foreigner's ways reacts to a man's credit. It is clear that a man's prominence is enhanced in this way, and may even become the basis for recognition as a chief.

202 Columns of smoke are raised from time to time by traveling parties to attract attention or to signal friendly intentions. This is evidently customary among all the tribes of this region (see pp. 371, 379).

[439] 648 The following account indicates the type of casual visit for the purpose of trade. It is clear, however, that gain is not the chief interest.

484 722 When I [Sinyella] was four feet high the Yavapai liked to come to this place to fight; they killed so many every time. My relatives were afraid on this account and they wanted to go to stay at Oraibi where there were many men. So we went and there I played with the Hopi boys and learned the Hopi language.

224 484 648 This was the very first time I made a trip to Oraibi. We started from the village to go up by Tovŏk$_y$óvà [the dry bed of a waterfall, Lee Canyon] and camped in a little cave nearly at the plateau. There were a good many people with us. They said among themselves, "We would like to go out and hunt for mountain sheep. If we kill some we will eat them," and others agreed. In the morning all the men went hunting on the plateau to the west. When the sun was halfway down in the sky we heard someone holler from the hilltop in that direction. They shouted, "One man has fallen down the white cliff and has been killed." Then all the hunters came home and told us. "They found a flock of mountain sheep. There were several rams with them. One of the men shot a very big one with an arrow, and the other sheep, the big ones, ran off. The wounded ram jumped part way down the white cliff, and ran along a very narrow ledge. Two men jumped down from rock to rock and along the ledge, following him. The ram stopped at the abrupt end of the ledge. My father and Jess' grandfather followed the ledge. The ram turned toward the men and ran fast at them: he held his head down sideways. My father stood right against the wall; the other stood right on the edge. There was not room enough; it was very narrow there. The ram butted Jess' grandfather off the cliff to the bottom. The ram stood right there, until all the others came and killed it, and then it too fell down the cliff at the same place. So we all came down the Tovŏk$_y$óvà trail and went around into the canyon where we found the man at the bottom of the cliff. We carried the body away, dug a

484 649

1: Spier E-5 (1918) 1928
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and scalps. It seems that raids were sporadic, and I gather, may have averaged not more than one a year. During these periods of insecurity, the natives were accustomed to live in the little caves and on the ledges along the cliffside in order to make their escape more easily. 726 722

The Navaho did not raid into the canyon, but they would sometimes drive off the Havasupai horses when the latter were trading in the Hopi villages, or they would descend on some returning, heavily-laden trading party, and kill or despoil them. 721 [439]

Offensive operations did not figure to any extent in Havasupai life, partly because of their numerical inferiority and partly because their material existence was better than that of any of their neighbors, with the exception of the Hopi. War activities do not appear to have offered absorbing interest as a general rule, although prowess in war was a decisive factor in bringing social distinction, i.e., chieftainship, to some. [511]

Weapons are bows and arrows, hatchets, and clubs. The hatchets may only have been iron tools acquired through the Hopi. The club is a single piece of heavy wood, with a round head 10 to 12 cm. in diameter, and devoid of a rawhide cover. This was used with a descending, smashing blow, not at all like the punching stroke of the Mohave with a club of a different shape. A sling is also used, although it was not seriously considered a weapon. Sinyella said, "The last time the Yavapai came I was a young lad. I made a sling and threw rocks at them. I do not know whether I hit any or not; I was high up near the top of the red cliff." 411 [439]

Arrows used in war are said always to have been poisoned. Poisoned arrows are kept in the quiver with the untreated variety. It did not harm the meat of a deer, for example, but this is at odds with the supposed effectiveness of the poison as recounted in the tale of a raid by whites. The poison (*paisdha*) was made of a black substance in the big scorpion, centipedes, red ants, *matgînyué* (a small black bug that bites), jimpson weed, and *qudadmund* (a weed growing on the canyon bench). These are mashed, dried, and stored. Soapweed leaves are thrown into the fire to get hot, and wrung to expel the juice. The little finger is wet with this glue, dipped in the powder, and a little is put on arrowhead and foreshaft. A mere scratch is sufficient to kill. 278 411

Armor took the form of a shirt or smock, fitting close around the neck and hanging nearly to the ground. It was composed of two thick buckskins before and two behind; the thicknesses sewed, but not glued, together. A small buckskin was twisted into a thick loose rope and worn around the neck like a muffler. A big buckskin was rolled into a bundle 713

1:Spier E-5 (1918) 1928
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The third day was occupied with horseracing and trading with five Hopi men who now arrived. The dance was given at night continuing until dawn. It was begun by Navaho and Hopi who sang their own songs.

According to informants it is usual to provide two semicircular shades of branchee set upright in the ground for the women to cook under.

The drum (*gweflłkómid*) is slung under the left arm. It is a section of a hollow cottonwood log; one specimen (50.2–1632A) is 43 cm. high and 30 cm. in diameter, with hide ends laced together. The drumstick (*gweflłkómidł'i*) is of the looped type. In one specimen (50.2–1632B) a willow handle, 25 cm. long, terminates in a double loop of 11 cm. diameter, which is bound with cloth, the whole being painted red. Formerly, a skin was fastened over the mouth of a clay vessel containing a little water. Turning the pot over wet the skin and caused it to shrink taut. This was carried in the dance slung under the left arm. They do not drum on baskets.

The speeches delivered by chiefs are in part prayers. Sinyella prayed to the ground, the rocks, and the creek as follows:—

łnyámátvł	má'évához'ł'ł	dúyłłniyúdjłk
my ground	ground, hear me	let us always live

áhánłgwayóhag'ł'ł	ma'évához'ł'ł
I want always to live well	ground, hear me.

The position of dance director is informally filled by any of the chiefs: it is not, as among the Mohave, the prerogative of an individual. In fact, the term *kahá't* (the equivalent of the Mohave dance leader, *kohota*) is applied only to a big chief. Nevertheless, there is a tendency for one man to assume and retain the initiative in this affair. But this has probably no greater significance than the direction over the horseracing assume by Panamida at present. According to Sinyella, his father's two older brothers (the eldest of whom was a chief) were directors, who passed their function to him when they died, but it is doubtful that this function was as formal as his statement would imply.

The song leader's position is equally informal. The present leader, Supai Jack, is universally recognized as the best singer, with the most perfect memory and fertility in inventing songs.[1] Many of the songs now sung were invented by his predecessor, Teyadjává (corn thief), a chief, to whom he was unrelated. Teyadjává dreamed he was dancing and singing the following song:[2]

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[1] About 1900 James saw a Chemehuevi, who may have been a ghost dance advocate, acting as a song leader, (b), 253.

[2] The airs of these songs do not resemble most of those of the Zuñi, nor according to the Havasupai, those of the Hupi; on the other hand, they have something in common with the Mohave songs they sing and also with those of the Southern Diegueño which I have heard.

1: Spier E-5 (1918) 1928
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parents have eaten portions of deer carcasses killed and partly devoured by wolves or mountain lions, or of rabbits abandoned by eagles. The baby is sung over by the doctor who knows the songs about these animals or the eagle[1] as the case may be. Potions are not administered by the doctor nor by any other. The eagle song is as follows, the last line being repeated three times:—

sakàhútaŋa àsá
eagle eagle
ĭnyàhátčŋe ĭnyanyàhátà
my domestic animal my dog
iyàwaičŋe yuwaĭà
you concern my heart my heart
huyuwĭ'nõŋa hu
head head

Descumalaua's father was a snake doctor. A man who had been struck in the calf by a rattler came to his house. He immediately made short incisions all about the puncture, tied a ligature about it, and sucked out the blood. At night he sang just as a shaman does, waving a feather (the longest from the eagle's wing, covered with white gypsum) over the wound.[2] A ring of sagebrush (*Artemisia ludoviciana*) is put around the limb to draw out the poison, not the blood, on the ground that the snake may know and use this plant. The snake doctor can cure the bites of the three snakes recognized as poisonous, viz., àluwi'tavà, the prairie rattlesnake (*Crotalus confluentus* Say), haiwi'tà, the Pacific rattlesnake (*C. oreganus* Holbrook), àluwĭhalàĭ'dàĭ'dà, the western striped racer. (However the last, a fierce fighter, is not a venomous snake).[3]

One who was struck by a snake would catch it and, grasping each jaw, attempt to split it in two. If the snake split quite to the tail, he would recover, otherwise he would die.

The shaman's rattle is a gourd, obtained from the Hopi. Each shaman presumably has his own, but one that belongs to a layman may be borrowed by those who want to cure. (One such rattle was also borrowed for the Mohave dance). They may also be inherited as part of the shamanistic properties.

[1] The Maricopa have eagle doctors "because they are afraid of eagles" (Mohave information, Bourke (a), 172).
[2] Another time the informant said that this was a Walapai practice only.
[3] These are probable identifications made by Miss Edna M. Fisher from native sketches and descriptions. In addition my informant recognized three non-poisonous snakes: *alyallìa*, the Arizona gopher snake (*Pituophis catenifer rutilus* van Denburgh), *kanyapiku*, the Arizona king snake (*Lampropeltis pyromelana* Cope), and *katàmàlà*, possibly the spotted night snake (*Hypsiglena ochrorhyncha ochrorhyncha*).

1: Spier E-5 (1918) 1928
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the abdomen, and to this end her mother continues to press it. She is given a little soup, prepared from dry corn, if she wants it. This procedure is repeated on the three subsequent nights. Her husband, too, bathes four times. Sometimes delivery is difficult, labor lasting three days or even four. Then everyone is told to come and advise what course to take. A woman who has a good delivery returns to her tasks after one night; if it has been difficult she can work after four days. Her husband, however, is not prohibited from working. [844] [846]

Twin births are rare and multiple births have never been heard of. Monsters are unknown. Three instances of twin births were recalled by my old informant: Pakádagó'ovà, now a man of sixty; twin sisters in the past generation; and a pair now dead, were born to a young woman.[1] [845]

Twins (*huwdǧídjà*) differ from other children only in the sympathetic bond that unites them. If one sickens and dies, the other will also.[2] Pakádagó'ovà's twin sister was destroyed at birth; wrapped in a blanket and buried. To indicate the efficacy of the custom, my informant pointed out that the survivor has lived to be an old man. In this case he did not know which twin was born first, nor why the girl was selected. It is believed that twins are due to the circumstance that the pregnant woman, before the foetus is well-developed, lies first on one side, then turns quickly on the other, thus splitting the "fluid" in two parts. Intercourse during pregnancy does not cause this, yet such relations are improper. [843]

The old women attendants mould the head and face of the new-born child lightly with the finger tips; point the chin, pinch up the bridge of the nose, pull down the ears, press up the hard palate, and rub the thumb along the gums. They repeat this whenever the baby is washed, straightening the body and limbs, and unclenching the fists. No intentional deformation is practised. Occipital flattening occurs but rarely, and that little is moderate and presumably accidental.[3] [844] [856] [304]

Contraceptive devices are unknown. Some women are barren (*pîk'igîčaaîdàdj*, barren woman—used contemptuously): it is not known why. One does not pray for children, but a young girl who is barren may drink a decoction of ground abalone shell in water. The shell (*hôlkdl'ô'pà*) is obtained through the Mohave. The lines on it represent the ocean waves. [842] [439]

[1] The ratio of twin births among whites is 1:89.1 or 93.1 (Zeleny, 262). If the death rate for twins is so greater than for others, we would expect to find only one or two living in a population of 178. [163]
[2] A Paviotso belief (Lowie, (i), 293).
[3] Hrdlička, (f), 83 records one instance among twenty-five individuals.

1:Spier E-5 (1918) 1928
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853 The child is put to breast two days after birth. He is not fed during the intervening period.

854 The cradle is made by the expectant woman's mother or grandmother before the child is born. The baby is placed in it as soon as he is washed. It is bedded with a little Hopi blanket on which cedarbark, [479] rubbed soft, is heaped; after the infant is put in position with his arms at his sides, more bark is heaped on, then the blanket is wrapped tightly about him. Infants are kept in the cradle most of the time until they are able to walk. On the whole, a woman does not carry the cradle much on her back, but more frequently in her arms, in which she resembles the [174] Pueblo woman.[1] This is probably due to the sedentary life she lives. The only reason assigned for the use of the cradle is that it has always been the custom. "If the baby is not placed in the cradle, he may move about and, turning on his face, suffocate."[2] The hoop is designed to prevent this calamity by keeping the mother's blanket off the infant's face and to save him from injury in case the cradle falls. Evidently a larger cradle is made when the infant grows, since one specimen seen, much smaller than the others, must have been that of a young infant. The [842] cradle is kept for the next child when its use is finished. If broken, it is thrown away, not burned, because that would cause barrenness.

The cradleboard consists of an oval frame with nearly parallel sides, across which small sticks are closely spaced except at the rounded ends. The frame is made of two U-shaped rods, with their arms nicely trimmed and lapped. These pieces are green branches which are bent, tied, and buried in damp sand to set in the shape of a U. The cross pieces are placed as close together as possible, being bound to the frame by a continuous strand of sinew or buckskin which passes once diagonally over the end of each cross stick. The whole wrapping is liberally daubed with piñon pitch. A strip of cloth (buckskin?) is laid along each side of the frame to cover this wrapping. This is held in place by the tie loops, buckskin thongs, which are always four in number. Two broad tying bands are used: one tied to the uppermost loop, the second to the third loop on the same side. These are tied as shown in Fig. 55. The carrying strap is a broad band, sometimes a Hopi or Navaho woven belt, fastened to the frame one third of the distance from the top. Not all cradles have such straps. The hoop is a broad wicker band. It is made with about forty slender twigs for warps which are bound side by side

[1] I have not seen children carried astride on the back by women nor astride on the hip.
[2] Also for the Papago and Pima the cradle is not primarily for transportation but for the infant to sleep in (Kissell, 146).

1:Spier E-5 (1918) 1928
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832 On the subject of womanly beauty, I was told without hesitation that all men agree on Esther and Eunice. Both are young, sprightly, and smiling. Both have broad, perfectly oval faces; the curve of the cheek flowing smoothly from eye to wide chin, uninterrupted by prominent cheek bones. Both have clear, evenly pigmented skins, tan or buff, without wrinkles, hollows, darkly pigmented or thickly veined areas. Evidently the hair is not included in the estimate for Eunice's hair is cut quite short.

562 While wives are subordinate to their husbands no great restrictions are imposed on them. A wife follows when walking with her husband. She may eat after him when he entertains guests. Etiquette does not prescribe her seat with reference to his own. It is not proper for a woman to entertain a man alone during the absence of her husband, although it is permissible to have many men and children about. Nor should she walk about with any other man, not even a brother or father. If either of these relatives wants a thing brought from the fields, e.g., he so informs her, and she goes alone. When the objective is at a tiring distance, she may properly ride, but women do not ordinarily ride about the village, even when accompanying their husbands, as this would cause adverse comment. They would be cautioned against the possibility of being molested.

648 The attitude toward guests from other tribes should be one of
574 cordiality. A stranger stands at the door until bidden to enter. The host now shakes hands and expresses his pleasure. Food is provided. Both are reserved, inquiries progressing slowly. The host makes a
[439] present, buckskins or food; his guest reciprocates. This is really an overture to trade negotiations, since presents are not freely given. Adop-
[697] tion is not usually practised, nor names bestowed.

The visitors were pressed to eat heartily before others at the dance in 1919. In spite of the cordiality shown them, group consciousness showed itself in the awkward banter, brusqueness, and the tendency to form a compact group on the part of the Navaho and Hopi visitors. At night they usually camped together at a single host's camp.

574 It is courteous to call out before entering a friend's house, though an informal entrance is not taken amiss. While it was said that a guest would be seated to the right of the entrance (to one looking in) or better at the side furthest from it, this was denied by another informant. Casual guests munch a roasted ear of corn, etc., if such happens to be prepared,
[576] otherwise nothing is cooked for them. No word for thanks exists other than *hánlgá*, good, nor any for please. The Zuñi custom of expressing thanks is ridiculed.

000 I had not been at the school long enough to acquire the needed information, it was evident that I would have to submit a report of some kind.

123 To learn the form and material embodied in such accounts, I studied the reports on file, beginning with the one drawn up in 1895 by the teacher who had established the school. He and his farmer, with the help of the Indians, had hauled the stone and put up the buildings in which we now lived. When he arrived in the canyon, after the drive from Seligman and the descent of a far more primitive trail than we had traveled, he found no shelter for himself and wife, nothing to work with, nothing to work for [515] except the Indians, whose children he described as "wearing a covering of grease, mescal juice, and filth, fearfully and wonderfully combined." After he knew them better and had recovered from the shock of that first impression, he wrote of them as "sturdy, simple mountaineers, who simply asked to be let alone." [684] When he reported: "Death by perishing from thirst on the desert is the punishment to women for promiscuous amours," I knew that the Havasupai were stark realists, daring and stoical, and I would not have a dull moment.

439 I also came across an order for one thousand eight hundred pounds of dried peaches which I must purchase from the Indians and ship to other Indian schools for use on the children's tables, and an order for twenty cords of wood to be bought and shipped.

648 I learned, too, that the superintendent must co-operate with the officials of the Grand Canyon Forest Reserve, who controlled the plateau region surrounding the small Havasupai Reservation. There were many infringements of law by the Indians, who claimed the reserve as their age-old hunting ground, and the officials made occasional trips to the school to request an investigation.

595 Among the orders was one prohibiting polygamy. The busy, contented Havasupai seemed so free from the evils afflicting the Walapai that I was convinced that no man in the tribe claimed two wives, although I knew that some of the older Walapai men 000 had two or more. These Indians apparently had no knowledge of

2:Illiff Y-5 (ca.1901) 1954 NT14 Plateau Yumans NT14
Havasupai

CHAPTER TWENTY

The Peach Dance

As summer waned, the Indians' activities centered on the Peach Dance, their annual harvest festival, held in late August or early September to give thanks to Those Above for a bountiful crop and to petition for continued protection and care.

Men and boys hurried to complete a task at which they had worked indifferently for weeks—the clearing of brush and debris from the dance floor. Messengers rode up the trails to the east and to the west, carrying the knotted counting cord extending invitations to friendly tribes. The invited guests need only cut a knot from the cord each day, the last knot representing the day festivities would begin. These guests would bring news, and their presence would add zest and gayety to the celebration. Women left their games of chance and busied themselves at the grinding stones. Vegetables were brought in from the gardens; peaches, figs and apricots, either fresh or dried, were prepared for the big feast.

The Peach Dance was one of those age-old ceremonies revealing the true culture of the Havasupai. For centuries men and women of friendly tribes had flocked to the canyon to take part in the festivities and to trade Navaho blankets, ponies, saddles and silver ornaments for garden-grown vegetables, fruits and buckskin.

A few Walapai and several Hopi drifted in for the dance, and our hopes kindled that some of the white men and women who had previously attended this ceremony might make the trip into

3:James T-5 (ca.1900) 1903
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281 and beaten up and down in a bowl of water until a
291 good lather and suds are produced. Then the operator takes a mouthful of the liquid and squirts it over the skin, which he manipulates and softens, rubs, scrubs, and pulls with his fingers and feet, moistening it again and again as occasion requires. Wild catskins are treated in the same way.

From this excellent buckskin the men make mocca-
[462] sins for themselves and their women. The first time I saw Kohot Navaho he was sitting naked, upon a blanket outside his hawa, his three wives near by, they cutting and preparing peaches for drying, he busily engaged making a pair of moccasins. The sole is of two or three thicknesses of heavy rawhide, to which the uppers of buckskin are deftly sewn, with strings of catgut or deer intestines, the holes being made by a bone awl.

● 439 Every summer trading-parties of both Hopis and Navahoes come down to the village, bringing blankets, ponies, pottery, and the like, for exchange. In 1898 there were three separate bands of Navahoes and two of Hopis. Trading is a serious process. Laws of barter or sale are first made, before the traders open their packs, and all the people are expected to abide by these loosely promulgated laws without question. Then the hawa of the Havasupai host is turned into a store. Poles are suspended in every possible direction on which to show off the blankets to best advantage. A crowd
[574] of chattering men and women stand outside, or, now and again, come inside, during the whole day, and at night-time the men who have done business come in, squat on the ground, and spend the hours in smoking, tale-telling, and gossip.

437 There is difficulty in the Havasupai mind at trading

3:James T-5 (ca.1900) 1903
NT14 Plateau Yumans NT14
Havasupai

Some of the skins are dressed with the hair on and are used for clothing, as sleeping mats, or are sold to the travellers at the trains or traded at the stores on the railway. But many of the better skins are carefully tanned and dressed and converted into buckskins, as before stated.

This, indeed, is one of their staple articles of trade, good buckskins fetching as high as five dollars and even ten dollars cash. I have several times seen a blanket for which I had offered eight dollars or ten dollars readily exchanged for a simple buckskin, and it is not an unusual occurrence to note a trade where a fair Navaho pony is given for a large and well-dressed skin.

The outside Indians that the Havasupais are familiar with are the friendly Wallapais, whom they call their cousins, the Hopis and the Navahoes. They have often had wars with the hated Mohaves, Apaches, and Paiutis. The Chemhuevis, Pimas, and Maricopas are their distant, little known, but accepted friends. Far-away Zuni is Si-u, and still farther Acoma is Ac-o-ca-va, and though intercourse with the people of these villages is rare, it has always been friendly.

For the grazing and watering of their horses and other stock each head of a family has a certain region allotted to him, over the boundaries of which he may not allow his stock to wander, except when removing them or by special permission. Manakacha, the head Kohot, takes the range formerly owned or controlled by Captain Navaho, the late Kohot, viz., the region of Black Tanks. Rock Jones (the chief medicine-man) has Topocobya Canyon and the plateau above as far as the other side of the Grand Canyon towards the Mystic Spring Trail, where begins the territory of Vesna, Captain Burro, and

193 731 In January, 1911, the most disastrous flood of historic times funneled melted snow resulting from a sudden thaw on the plateau and higher canyons into the confines of Cataract Canyon. A churning roar from the advancing waters signaled reservation residents, who made a predawn flight to the talus slopes. A wall of water smashed through the village, leveling primitive hogans and stone government buildings alike and sweeping away crops, food [657] stores, and personal possessions. Since that time some measures have been employed by the Office of Indian Affairs, without complete success, to contain the creek in a permanent channel as it flows through the village area.

[342] An irrigation system, installed about 30 years ago, repeatedly has suffered major damage from floods. The Indian Service plans to install new diversion headings and to build three large aqueducts with permanent footings. This is expected to stabilize the present irrigation system and to add a few more acres to land now being farmed (Kelly 1953, 56).

133 [648] About a mile downstream from the village, Havasu Creek tumbles in a series of waterfalls which attract tourists. The scenic aspect of Cataract Canyon in recent years has become an economic asset and a precipitator of increasing Havasupai-white contacts.

133 311 731 Travertine terraces deposited at the crest of a waterfall eventually divert the falls to another location. A severe flood in 1952 destroyed a 50 ft. fall, lowered the creek channel for some distance upstream and rendered useless the irrigation system servicing fields in the vicinity. Additional floods over the next few years further deepened the river channel, washing out adjacent fields and leaving others without water. However, some new gardens are now being planted at lower levels along the stream where land can be reclaimed.

439 648 Since the two most spectacular waterfalls are beyond the reservation boundary, concern is felt by the Havasupai that their budding tribal cooperative tourist enterprise may be doomed. Private business interests may be able to bypass the reservation area by providing transportation into the canyon at the falls and establishing tourist accommodations there.

Climate, Plants and Animals

132 Records of a climatological substation operated at Supai for 14 years between 1899 and 1930 reveal a maximum annual precipitation of 13.87 inches and minimum of 4.50 inches, averaging 8.89. Precipitation was highest in February, July and August (Martin and Kincer 1933, Section 25, p. 14).

Temperatures in Cataract Canyon are consistently higher throughout the year than on the plateau. Snow seldom reaches the canyon floor, but freezing occurs in the coldest months. On sunny winter days when canyon air is cool, the warmest areas are southern exposures along the top of the talus

spellings, the name possibly being derived from the Zuni term for the Havasupai, ka'nina (Spier, 1928, 98). From this source the county where the Havasupai live received the name Coconino. 101 114 197

Intertribal Contacts

As already noted, Havasupai association with the Walapai has been longer and more intimate than with any other tribe, and intermarriage occurs with much greater frequency than with any other group. Few Havasupai families are without consanguine relatives among the Walapai. An elderly man, Shorty Montoya, was pointed out as being "the only true Supai" (that is, he had no ancestors known to have belonged to the Walapai or other tribes). 101 648

Contact with the Yavapai was limited to Yavapai raids upon the Havasupai and retaliatory attacks by the Havasupai until about 1865, when the two tribes agreed to cease hostilities in favor of trade (Spier 1928, 375). Western Apache groups probably joined Yavapai parties raiding the Havasupai (Spier 1928, 356), and raids are generally attributed to them, rather than to the Yavapai. 648 721

The earliest encounters with the Navaho in 1864 (Spier 1928, 95) were somewhat hostile, but trading and friendly relations developed in succeeding years. Similarly, reports indicate that early relations with the Paiute were hostile, but by 1856 (Spier 1928, 360) some Paiutes had taken refuge in Havasupai and Walapai country. Subsequently the three tribes became friendly. A small number of intertribal marriages took place. 648 439

The Havasupai have had a long history of trade with the Hopi. Informants stress that the Hopi are like brothers to them. However, intermarriage has been infrequent. [582]

Spier (1928, 100, 244-5) notes that the Mohave were on the western end of a trade route running through the Walapai, Havasupai, and Navaho lands to the Hopi mesas. Havasupai contact with the Mohave was mostly through the Walapai, but Havasupai sometimes made trading trips to the Mohave.

Political and Social Organization

Leadership formerly rested with chiefs, who achieved office through inheritance or personal merit. Chiefs had no power to command; rather, they acted as advisers and leaders. Succession of chiefs was not automatic and did not necessarily follow immediately upon death of a chief. A period of months or even years might elapse before tribal opinion united upon a successor. 622

845 divisions at the small end. A woman must kneel at only one end of her grinding stone and use it the same way each time; if she were to grind on it from both ends, twins would be born. She must never turn about quickly or turn over quickly in bed or the fetus would divide into twins. No triplets are known; consequently no precautions are taken to prevent triple births.

Contraception and Abortion

842 Spier (1928, 301) wrote that contraceptive devices were unknown, but for barrenness a mixture of ground abalone shell and water was drunk. He also noted that "one does not pray for children."

[784] [782] Informants now report that in former times as at present women used what they thought to be contraceptive measures. These consisted in part of deliberately breaking taboos. During menstruation, a woman would eat cooked jackrabbit or antelope meat, concentrating the while on a prayer that she would have no more babies.

Meat from a ground squirrel was dried and crushed on a grinding stone to the fineness of gelatine powder. During menstruation, a woman took some of the powdered meat in her hand, went to a place of solitude, and licked the powder from her palm in small quantities while she prayed that she would conceive no more.

842 755 While it was reported that the Havasupai medicine men do not generally treat women either for barrenness or contraception, one informant stated that a certain woman had ceased childbearing after being treated by a Havasupai shaman. This information was not checked with the woman in question. Two women who consulted Navaho medicine men were interviewed, however, and their accounts are given as recorded.

842 159 Informant I:

"I was so sick after my last baby because I lost too much blood and almost died from it. I was in the Truxton Canyon Hospital at Valentine and they took care of me, but they wanted to send me to another hospital in Albuquerque. I didn't want to go there so I came home instead. I went to the sweatbath, and the medicine man sang for me to get well, too. Then I heated some rocks and made a place in the ground the same as for a monthly. When I lay on the warm sand over the rocks, the blood flowed better. All these things made me feel better for awhile.

[439] "Then it was time to gather pinyon nuts so we went on top (the plateau), and I got sick again up there. Some Navahos were camped near us. My husband and I had heard that when their women didn't want babies, their medicine man gave them some medicine. We didn't believe it would work,

but I was so sick that we were afraid I would die, and since the Navaho medicine man was right there, we asked him about it. He said he had some of the medicine and would sell us enough for two days for $5.00. It was a root or leaf ground fine like powder. He told me to make a tea and drink it once each day. He didn't sing for me or do anything else. I just drank the tea like he said. It turned out to be what the Navahos said it was, because I never got pregnant again and my youngest is ten years old." 842 159 439

Informant II:

"After my little girl was born, I decided not to have any more babies. You can still have them after forty, but I didn't want to. I went to the Navaho medicine man and bought something made of different kinds of weeds pounded up about as fine as tea. There were different colors: green, brown, and yellow. He found them somewhere and had already prayed over them. I took home what he sold me and made tea and drank all the water off. Then I carried the wet leaves out and put them under a small bush very carefully in the shade. They can't be in the sun. Then I prayed, not a Navaho prayer, just Supai words. I said, 'I don't want any more babies. Don't let me get pregnant again.' After that I went back to that bush three more times and prayed again. You do it that way just one month during your monthly. You can start right after your baby or several years later, whenever you decide. Then later on, if you want another baby, you can go back there and pray for one or as many as you want. I had seven, not very many, but I don't want any more. After my third girl I did that, but I got pregnant again. So I did it over after my last one. I had the medicine ahead of time before she was born so I could start on it right after." [782]

Abortion is attempted only in the early months of pregnancy. "The blood is in a sack starting to form, and it will burst and come out but not after you feel the baby move." The procedure requires that the pregnant woman lie prone while someone, usually her mother or her husband, "steps on her back" or applies pressure to the lower back area. One informant denied that this is ever done today, but another reported such a case. This method may be tried repeatedly if it is unsuccessful. 847

Childbirth

Attendants at birth are usually close relatives of the expectant mother or father. Individuals are said not to specialize in midwifery, but certain persons are mentioned as being especially skillful. At the present time, two of those considered the most competent are a man and a childless woman. Attendants commonly are women who in addition to skill should be strong. The husband or father of an expectant mother usually gives some assistance and makes certain preparations. 844

462 for someone who needs help. The heavier work is done by men while women
[342] generally do the thatching. However, with house design and materials chang-
[476] ing, housebuilding is now a masculine task.

462 Barter was popular among both sexes, both within and outside the tribe,
439 each individual trading the fruits of his own labors. Women usually traded
baskets while men traded tanned or raw hides. Both might trade dried and
seed corn, pinyon nuts, mescal, and other wild plant foods. Men some-
times traded buckskin clothing, powdered ocher, or tools of their own work-
manship. Havasupai trading parties consisted of family units or all male
groups; women of course did not go off alone to trade. The Havasupai also
obtained articles from one neighboring tribe to be used as trade items with
another neighbor. Spier (1928, 244) reports that "An active trade was con-
ducted with the Navaho and Hopi to the east and with the Walapai and Mohave
to the west. In fact, we may properly speak of a northern Arizona trade
route from the Hopi to Mohave, independent of more southerly tribes and
cut off from these to the north by the Grand Canyon." Buckskin was the
Havasupai article most in demand among other tribes.

Recent Employment

461 Service ascribes a postulated increase in male prominence and a cor-
177 responding decrease in importance of woman's economic role, in part, to
562 a change from male hunting and female gathering to a subsistence based
mainly upon male agricultural activities, and, further, to "white influence"
which, he writes, "is undoubtedly effective in promoting male predominance"
(1947, 361).

This hypothesis appears subject to modification today. Spier (personal communication, 1957) supports the following conclusions:

First, a survey of women employed permanently or seasonally either on or off the reservation reveals that several maintain themselves, while many others contribute to the support of their parents, husbands, or children. Women remain active in gardening activities as they have always been, but some of the heavier work is reduced for both sexes by use of the tribally owned tractor operated on individual plots by an individual appointed by the tribal council.

Secondly, it is difficult to imagine that the white cultural group, which socially, politically, and economically accords women almost unprecedented status, rights, and privileges, can be responsible for promoting predominance of the Havasupai male or for minimizing the economic importance which the woman had under aboriginal conditions.

562 Women have not been idle at any stage of economic adaptation which
464 the tribe has undergone beginning with depletion by the whites of natural
177

Ownership privileges of white women set an example which Havasupai women appear to envy. In addition, modifications in Havasupai political and social structure with consequent economic adaptations point away from any increased emphasis upon patrilineal inheritance, and therefore, toward increased emphasis upon property ownership and land inheritance rights for women. 423 428 562 578 177

Arts and Crafts

Basket weaving is almost the sole outlet for creative artistic talent among the women. Interest in it has so fallen off that, in 1950, only half a dozen women were actively occupied in making baskets despite the fact that their supply never equals tourist demand. It was said that the work of a few other women who had tried basket weaving at one time or another was too inferior in quality for sale. Most of the older women are able to make twined baskets for their own use, but they seldom do. Apparently no one has twined a burden basket for some years, and only three examples of this type were observed about the village. The only other basket type seen in use was a broad, shallow tray convenient for winnowing seeds, parching corn, pinyon nuts, or seeds, and for drying peaches, figs, or other fruit. 285 463

Spier (1928, 126-7) identifies two coiled baskets, one a flattened globular form used for stone boiling and the other a tray used for winnowing or parching. An informant at the present time reports that a shallow bowl from which a family took its meals was also made by coiling. Presumably, all other basketry forms were produced by the twining technique. 285

Today the few utilitarian baskets woven are twined, while those made for sale to tourists are nearly all coiled.

Although women traditionally traded baskets to the Hopi, Navaho, and Paiute, demand lessened as metal containers became available. Basket weaving for home use declined, although the Havasupai continued to make certain types, including burden baskets and trays, which were not duplicated in metal form. [439 177]

The advent of tourists to Grand Canyon National Park for a time stimulated interest in basket manufacture, but emphasis gradually changed from utility baskets in twined stitch to coiled ornamental basketry in a variety of new shapes and sizes. Coiling was the weave preferred by tourists.

Formerly, emphasis was upon utility rather than upon artistic effect or originality of decoration. Baskets were sturdy and durable. Weavers in general kept to basic styles, although the variety of shape in water bottles suggests some inventiveness beyond requirements of utility. Spier (1928, 124) reports four striking different shapes of water bottles, although three are variants of a single fundamental form.

586 A Hopi woman divorces her husband merely by setting his personal ef-
562 fects outside the door and he has no alternative but to leave. A Hopi man initiates divorce by moving back to his mother's house. A Havasupai woman, on the other hand, in earlier days, could not divorce her husband
[177] without his consent, but she could be turned out at his will. Today, in the acculturation situation, a Havasupai woman can divorce her husband.

A Hopi woman, in crisis, is secure with home and land owned by herself or her mother and is assured that male relatives will assist with farming labor. In contrast, upon divorce or widowhood, a Havasupai woman with few exceptions, finds herself dispossessed and thrust into a position of dependence upon some new group where her presence and that of her children may be welcome or unwelcome but is almost sure to be economically burdensome. She has no economic assets aside from her own ability to work, and oftentimes she may find her dependence upon relatives emotionally disturbing to both them and herself.

562 Among the seminomadic and polygynous Navaho and also among the sedentary Hopi, women are in a strong social position by virtue of the matrilineal clan system and matrilocal residence. Navaho women, in addition, are economically favored through their ownership of sheep and their industry in blanket weaving or rug weaving. Havasupai women own no prop-
[423] erty comparable to sheep, and their income from basketweaving has not been exploited to the point of significant monetary reward.

562 While the Havasupai had some association with the Navaho and main-
648 tained very friendly trade relations with the Hopi under aboriginal conditions, their closest neighbors were the Walapai and, in one or two periods, they
[439] also associated rather closely with the Paiute (Kroeber, 1935, and Ramon Dangerfield, personal interview, 1956). The position of women in the Walapai tribe is almost identical with that of Havasupai women, except that Walapai women can become shamans and, perhaps, participate more freely in singing, dancing, and other social diversions. Paiute women, apparently, also occupied a position very similar to that of Havasupai women.

In comparing herself with Walapai or Paiute women, whom she was most likely to know well under aboriginal conditions, the Havasupai woman may have seen nothing to excite her envy or admiration. The situation probably differed, however, in her view of Hopi and Navaho women. The ex-
[582] treme rarity of intermarriage between the Havasupai and the Hopi or Navaho may well have been traceable to the difference in inheritance and residence patterns and the consequently less favorable position of women in the Havasupai tribe. Apparently the present contrast with white women has done
[177] most to arouse dissatisfaction among Havasupai women. Education and economic opportunities now open to Havasupai women are combining to change their roles and enlarge their rights.

175 648 boundary in 1882 the Government took no active interest in the Havasupai. In 1892 a government farmer was sent to instruct them in better methods of farming and the use of metal implements.

439 For many years the Havasupai have carried on an inter-tribal trade with the Navaho and Hopi, obtaining blankets, wool, and silver work in exchange for dressed skins, and agricultural products. The Hualapai on the west trade many of their raw deer hides to the Havasupai in exchange for the Navaho and Hopi goods in addition to fruit and vegetables.

ECONOMICS

262 The present Havasupai food supply is based principally on agricultural products and meat. Corn, beans, and squash are the staples, supplemented by onions, tomatoes, melons, and other garden vegetables. Beans are of two kinds, navy and pinto—the latter a red spotted bean. The fruit crops are peaches, nectarines, apricots, and figs. [175] Peaches are said to have been introduced by John D. Lee, a Mormon, [177] who lived as a fugitive among these people for several years following 233 1857. Meat in the early days was obtained by hunting, but today most of it is from their herds of range cattle.

592 The economic unit is the household, usually consisting of parents, children, and unattached close relatives. These small groups are closely bound into large ones by blood ties. This grouping is based on, or at least correlated, with the inheritance of land on the one hand [428 591] and the temporary matrilocal residence on the other. Sometimes several generations of these people live close together and work together, but each married couple and the progeny are regarded as a distinct [591] unit. Some young couples build a home soon after they marry, but it is customary for them to live with the wife's parents until they have a home of their own.

428 Property descends through the male line. If a man dies his effects do not descend to his wife but to his sons. The sons may hold land or stock undivided for years until they have families of their own whose diverse interests make division necessary. The widow and unmarried daughters do share in the use of the land; but they cannot [768] lay claim to it, since the widow's relatives and the daughter's children never inherit it from them. If a widow hastily re-marries, her "use" interest is lost, reverting to the other heirs. Should there be no direct heirs, the property goes to the dead man's brothers or their male descendants.

423 When not living out of the canyon in the winter, the Indians live in a section of the canyon not much more than a mile in length. Ownership of the arable land is communal. Every family has a piece of land, which is recognized as belonging to it by the rest of the tribe. By established custom the land is inherited and may be sold to a fellow tribesman. One peculiar condition that caused some trouble in the past was the ownership by one Havasupai of fruit trees growing on the lands in possession of another, brought about, it was reported, by certain complications in inheritance.

422 A short distance above Supai village Walapai Canyon branches off to the west. In the upper end is grazed a herd of individually owned cattle. The men visit the herd occasionally to bring in a beef to the [422 settlement. The meat of the animal is sold or traded and is eaten in 251] a day or two, there being no means of keeping meat other than as jerky.

Horses and cattle are owned and herded by the men alone. The men are also the owners of the house and land on which it stands. Property, such as a man's tools, buckskins, weapons, saddle, and perhaps a charm and a mask; a woman's field tools, baskets, cooking uten-

THE HAVASUPAI

of the neck skin of the deer. The upper was a single piece of soft dressed skin, lapping at the outside of the foot, where it was fastened with a silver Navaho button. The woman's moccasin was a two-piece upper, a toe piece and a tongue in one, and long ankle flap which was worn around the ankle. The single tie string was wound over this and its loose end tucked under a fold. 291

Jewelry worn by the Havasupai is obtained in trade from the Navaho and Hopi or from the trader's stores at Grand Canyon. 301 439

Although the Havasupai relies mainly on his agricultural products, meat is a part of the diet the year round and especially during the winter. During the winter months rabbit drives are conducted by the men and boys. They drive in a straight course instead of drawing in a circle as several other tribes do. They claim their numbers are too few for a "surround". The rabbits are shot; never clubbed. Deer, antelope, mountain sheep, squirrels, and raccoons are also hunted. The hunt is still of economic importance as a supplementary source of food. Guns now are used in hunting instead of the traditional bow and arrow of former times. 262 224 [462] [177]

A man's work consists of house building or at least performing the heavy labor such as cutting and setting posts and beams, tending his fields, dressing hides, and looking after his range cattle and horses. 462

HANDICRAFTS

The Havasupai make basketry in two techniques, twining and coiling. Baskets are the most important domestic utensils and in each household may be found several burden baskets, food trays, and one or two water bottles. When not occupied with her other duties, the Havasupai woman is generally engaged in her craft. 285 415 [482] 462

The best material for making twined baskets is the acacia, generally gathered green. If gathered dry, or dried and stored, the twigs are either soaked in water or buried in wet soil two or three days before using. Cottonwood and willow are used. [824]

The leaves are stripped from the twigs by drawing them through the hand protected by a piece of cloth. The twigs are split in three parts, beginning at the tip, by using the teeth and both hands. Only the two outside strips are used, the inside being discarded. A knife is used to scrape the strips to uniform thickness. To begin weaving, two pairs of twigs are held so they cross at right angles at their midpoints. A weft strip is bound two or three times across the junction and the ends are woven alternately over and under the ribs. The weaving is in clock-wise direction, with the right side (the inside of parching trays and the outside of most other baskets) of the basket toward the weaver. After twining twice around the four ribs, another rib is inserted and caught into the twin stitch. The end of the twig is softened in water so that it can be drawn in tightly by the weft. The butt of the twig protrudes on the under side of the basket beyond the stitch by which it is held. As the weaving progresses new warps are inserted, always regularly spaced. As a rule baskets begin with diagonal twining, the weft crossing two warps at a time. Some begin with simple twining, the weft crossing single ribs, but soon change to diagonal weave. Diagonal twining is much more rapid. In either case the warps are inserted one at a time, but weft elements are twined in pairs, new strips are added singly.

To finish the edge of trays, burden baskets, or water bottles, the warp ends that protrude beyond the woven fabric are split and thinned, then bent to lie along the rim, and bound together with a stitch.

The burden baskets and water bottles are decorated with simple designs made by introducing different varieties of twining and with black from the Martynia or devil's claw. They have loops for carrying. The 285 415 531 [482]

285
415 water bottles are first coated with soap-weed paste colored red, and
531 then with piñon gum to make them water tight.

The real artistry of Havasupai basketry is seen in the coiled trays and bowls, made of twigs of cottonwood or the three-leaved sumac. In shape they vary from round or oval plaques, nearly flat but with slightly upturned margins, to baskets or bowls of cylindrical proportions. The material is prepared at leisure and made into bundles and stored. The bark is scraped from the twigs, the wood split and scraped to uniform width. When desired for use, the materials are soaked in water to make them flexible. The sewing is on a three rod foundation. The ends of three twigs are tied in a knot. One end of the sewing element is pulled under one rod near the knot. The rods are started in a spiral and the binder stitched around them into the middle of the knot. The stitches following those of the first coil are sewed into the knot also. The coils are so arranged that two rods lie along the completed coil with the third on top and between them. The stitch in the succeeding coils is meant to pass under the third rod, but in most cases it pierces this rod which the awl splits. Stitches are evenly spaced to pass between those of the previous coil, not to pierce them. After two coils are in place the end of the rods that protrude at the center are clipped off. Sewing is always from right to left; the free ends of the rods are held in place with the left hand while the right plies the awl. The sewing element is brought over the rod toward the worker and through the coil away from her.

There are two or three methods of finishing the rim of coiled baskets. Usually they are finished by cutting off three rods successively so that the coils will taper to an end. Some baskets are finished with a diagonal over and over stitch with two strands.

531 Simple geometrical figures, animals, and banded designs are made in the black outer side using the outer layer of the seed pod of devil's claw. Most baskets are of white background with black decorations, however, the reverse is sometimes found with baskets of black devil's claw background and white designs.

854 The Havasupai cradle board is an oval frame across which small twigs are laid except at the rounded ends. The frame is made of green branches which are bent, tied and buried in damp soil to set in shape.
[208] The sticks that are laid across the frame are bound to it by a long strip of buckskin which passes once diagonally over the end of each cross stick. A piece of canvas or buckskin is laid along each side of the frame to cover the wrapping and is held in place by tie loops of buckskin, which are always four in number. Some cradles have carry-
[439] ing straps or a woven Hopi or Navaho belt may be used for the carrying strap, fastened to the frame about one-third of the distance from the top. A hoop of wicker is tied to the frame in the open space at the top and to the upper cross sticks. Two stay straps extend from the center of the upper end of the frame to two points on the hoop. A blanket is usually spread over the hoop to protect the baby's face from the sun and wind and to save him from injury should the cradle board fall.

SOCIAL ORGANIZATIONS AND CUSTOMS

594 The Havasupai family in our sense is the social unit. There is no
614 *clan* or *gentes* system, nor are there any indications that they ever ex-
602 isted. Individuals recognize their affiliations with their immediate relatives only; there are no other particular social or ceremonial groups.

The family groups are loosely bound into large ones by blood ties.
593 A group of sons reside in houses adjacent to the parent's home, together with the newly established families of the daughters of the house. The father and sons work their undivided fields with the assist-

6: Schwartz A-5 (1953)1956
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hunting and gathering. As the whites moved into the upland area for cattle ranching, the territory of the Havasupai was gradually usurped. This movement of ranchers and farmers into the surrounding area may have forced the Apache and Yavapai to raid the Havasupai for food. On the other hand, their sporadic raiding may have been the continuation of an older pattern, on a less intensive scale.

Most of the articles of aboriginal manufacture were still being produced, such as pottery, clay pipes, stone knives, bone tools, fire drills and hearths, bows and arrows, basketry, skin clothing, etc. Three main architectural forms lasted from the preceding period: the brush structure, the rock shelter, and the talus top granary. Throughout this period many of the old customs, such as cremation, remained unchanged.

The old pattern of Hopi trade continued throughout the period, but the items which the Havasupai received shifted in part to white man's goods such as crockery, metal pans, guns, plants and cloth, replacing Hopi pottery, fabric and seed.

The main factors which caused changes in this period were the gradual increase in trade goods from the Americans and the shifts in Havasupai culture to accommodate them. The new traits were usually received through indirect contact, probably through the Hopi and the Walapai. For this reason the sixth period of Havasupai history has been termed one of diffusion, in contrast to the remainder of Havasupai history, which is characterized by acculturation.

Period VII — Anglo-Acculturation

The present period of Havasupai culture is a time of acculturation. It began with the establishment of the Havasupai Reservation in 1880, followed closely by the growth in Anglo population in the whole upland area due in part to the construction of the railroad, which reached Flagstaff about 1882. During the 80's and 90's the first popular accounts of the Havasupai began to appear (Cushing, 1882; Shufeldt, 1891; James, 1899), but the adventurers who wrote these accounts were preceded, as is usually the case, by prospectors, who unfortunately left no written records of their impressions.

In the late 1890's the federal government sent a farmer into the canyon, and shortly thereafter a school teacher. This was the beginning of intensive acculturation. The farmer introduced new and better tools, and perhaps a few modern farming methods. The first teacher and those who followed began the conversion to other parts of white culture, especially the English language. The school was also influential in changing the old pattern of plateau winter gathering, by gradually forcing the children to attend school during the winter. The increasing use of the upland area by white cattlemen also lessened its value to the Indians.

Clothing, which had already begun to change, now rapidly switched to the white man's garb, Southwestern variety. Moccasins were probably

6: Schwartz A-5 (1953) 1956
NT14 Plateau Yumans NT14
Havasupai

177 648 [175] the last item to change. The English language has not even yet been completely adopted; Havasupai is still spoken in the homes, at play, and at work. The present teacher (1954) has complained that, for this reason, the children forget most of their English vocabulary during the summer. English will be more widely used, however, with the increasing influence of schooling, the Saturday night cowboy movies, and the radios and phonographs.

A Havasupai village established by the Park Service near the Grand Canyon National Park settlement on the plateau now forms one of the main centers of Havasupai life and acculturation. The inhabitants work [461] either for the Park Service or for some other white firm concerned directly or indirectly with the Grand Canyon tourist business. The cash [439] income derived from this work and from the Havasupai's own tourist [432] trade in the canyon has radically changed their food patterns. Now they are able to, and do, buy food in the tribal store, which stocks the standard commodities. It is doubtful that canned soup or Hershey bars played a very important role in the diet of the pre-reservation Havasupai.

177 241 While the crop assemblage has remained approximately the same as that of the previous period, the farming methods have changed considerably. For example, a tractor is now used in the canyon to plow the fields. It was packed down the narrow trails piece by piece, as was the electric power plant which supplies current to the school and other government buildings.

177 943 648 The big flood of 1910, which washed out most of the farms and homes of the canyon, brought from the government relief in the form of small wooden frame houses. Indirectly, this caused the extinction of the talus top granary. After the flood the old brush dwellings were rebuilt and the new frame houses were used for storage, since they were supposedly too cold in the winter and too hot in the summer for living purposes. A few individuals, however, have adopted the plan of the frame house and have built stone houses, using modern techniques. This form may become the common dwelling of the future.

177 765 648 The suspension of crematory activities also began soon after the government invaded the canyon. The old pattern was gradually replaced by the extended burial, which is universally practiced today.

174 177 The acculturation of the Havasupai, which is by no means complete, took place first by the diffusion of traits into the canyon through the Hopi and Walapai, then by the selected introduction of white culture through the government workers, and finally by individual contact with whites at the Grand Canyon National Park village and elsewhere. These processes have increasingly accelerated the change of an aboriginal people to potentially full-time participants in Anglo culture and society.

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181 and winningly. It would not be an overstatement to call these people easy-going. Unpleasantness arises occasionally here as it does wherever human animals live together, but in Supai it seems of a less offensive nature. It is peaceful place where people are loathe to interfere in each other's affairs, yet ready to help when asked.

101 Leslie Spier once pointed out that culturally the Havasupais are closely associated with the tribes of the Great Basin. This is especially true of the material, economic and the social aspects of the culture. At the same time, these people are primarily agriculturalists like their eastern neighbors, the Pueblos. This places them in a distinctly intermediate cultural position.

221 In aboriginal times, when the tribe was often smaller than it is today,
[161] early spring found the Havasupais returning to Cataract Canyon from the plateau where they had spent the winter hunting and gathering piñon nuts and other wild seeds. The spring planting was done and the dirt covers on their houses repaired. It was at this time that much of the food, which had been dried and stored the year before, was eaten.

[361] During the summer everyone lived in the canyon, though trading
[439] expeditions were often sent out to neighboring tribes. When the corn
[527] and peaches ripened in September, the harvest was taken in and a dance
[648] held to which Walapais, Navajos, and Hopis were invited.

221 By the middle of October an exodus of families and groups of families
361 began and within a month the entire population moved up to the cedar thickets on the plateau where semi-permanent camps were established and once more the winter activities began. This annual cycle has changed considerably, however, in the past half-century.

177 The food-getting economy of today is no longer divided between the
221 spring and summer agriculture and the hunting and gathering of fall and
241 winter. There is a concentration by both men and women on agriculture and remunerative employment on the plateau. This makes it possible for families to depend on food purchased from the store as well as that which they grow. The hunting and gathering aspect of their economic life has been nearly given up, making the seasonal migrations unnecessary. The
[361] village is now the center of activity throughout the year.

11: Shufeldt D-4 (no date) 1892
NT14 Plateau Yumans NT14
Havasupai

maps the San Francisco mountain is represented as belonging to the continuous Mogollon chain, which comes from the east southeast, and was called Sierra de los Cosninos, the name of a tribe of Indians inhabiting this region. I am under the impression that Leroux, the early explorer in that part of the country was finally murdered by the Cosninos, but I do not remember that the account has ever been printed." Whipple also refers to the "Cosnino caves," remarking that "the Cosnino caves had been plastered with mortar, showing more artistic skill than is practiced by the present occupants of the country" (*loc. cit.*, p. 15). And again on page 19 he goes to show that, taken collectively, the Pontos, Cosninos, and Yampais together number 6,000 souls; of these 2,000 were Yampais (p. 17). But all this is very brief and unsatisfactory.

Capt. John G. Bourke in his work on "The Snake-dance of the Moquis of Arizona" (1884), says, "At Keam's ranch we met Mr. Alexander Steven, a bright Scotchman who during the past 12 years has had considerable experience as a metallurgist and mining prospector in Nevada and Utah. He gave me a thrilling account of his journey westward to the country of the Cohoninos, a tribe of Indians living in the cañon of Cataract Creek, near its junction with the Grand Cañon of the Colorado in this Territory.

"They number only from forty to fifty warriors, live in the cliffs in winter, and build 'wickyups' or sapling lodges in summer. They say that the Hualpais (Wolapais), Apache-Mojaves, and themselves are all one people—Cohoninos—but that *their* proper designation is the "Ah-Supai.

"They raise an abundance of finest peaches, good corn and melons, and weave unusually fine and beautiful baskets. They are great hunters, and eke out a living by trading off buckskins, and sometimes mountain lion pelts, to the Moquis, Navajos, and Apaches.

"The cañon in which they dwell is 4,500 feet deep, and is that of the Cataract Creek, a strong body of clear water tumbling by a series of cascades into the Grand Cañon of the Colorado, 1,500 feet still deeper, and separated from their village by a series of blood-curdling precipices and chasms" (pp. 80, 81). Captain Bourke, in speaking of the Moquis, says further, that "Intimate commercial relations are maintained with the Cohoninos or Ava-Supais on the west (*loc. cit.*, p. 254).

In a lecture before the National Academy of Sciences, delivered in Washington, April 22, 1882, Mr. Frank H. Cushing in referring to the Zunians said, "Interesting among the hero-gods is the great priest of all religious orders save that of the bow, *Poshai Anki'a*. In the days of the new, yet not until after men had begun their journey toward the east, he is supposed to have appeared among the ancestors of the Zuñis, the Taos, the Coconinos, and the Moqui Indians, so poor and ill-clad as to have been ridiculed by mankind." This lecture was afterwards published in The Popular Science Monthly, of New York (1882, p. 101).

tion variously, — by roasting, broiling, frying, baking, boiling, or drying. No part of the animal is wasted; blood, intestines, even visceral glands and organs, as well as the half-digested vegetable matter from the stomachs of the deer, antelope, and rabbit, being utilized as food. The liver is frequently eaten raw, immediately on the death of the animal.

Their implements for preparing food are few. The muller, or rubbing-stone, and the metlatl, or mill, of sandstone or volcanic rock, and various in size, flat transversely, and concave from end to end, placed upon a skin, are used for grinding; while large, round, closely-woven trays of basket work, coated with mineral asphaltum and earth, make excellent roasting pans. Earthen pots and brass kettles, procured by barter with the Moquis, serve as cooking vessels. Moqui bowls and native baskets are used in serving food, which is dipped from the cooking pot with large ladles of horn or wood, and eaten either with the fingers, flat sticks, or little wooden and horn spoons. Large panniers, slung over the forehead or shoulders with a broad strap of raw-hide, are used in collecting food, or carrying it to and from the distant granaries; and certain huge, small-necked, round-bottomed basket bottles serve as canteens and water-jars. Knives of band-iron, occasionally of good steel, have displaced, save in rare instances, the original flint instruments, as have also chisel-shaped fragments of iron or steel, inserted into wooden handles, like primitive stone axes, supplanted the scarcely ruder prehistoric implement. Sharpened bone or hard-wood splints and bits of stray wire make awls and needles; and sharp bone, or chipped discs of rock, their skin-dressers. Various stone hammers and mauls, with flat stones used about the fire, complete the limited yet all-sufficient list of Ha-va-su-paí household appliances.

In their agricultural operations and in the excavation of mescal pits, rude hoes,

silks of China or the shawls of Persia by ourselves. All this material is bartered with the Pueblos for blankets and various products of civilization, the former being again traded to the Hua-la-pai for red and black paints, undressed buckskins, and mountain-lion robes. Their red paint, ochre of the finest quality, has such celebrity among Indian tribes that, reaching the Utes on the north, and the Comanches in Texas, it sometimes travels, by barter from hand to hand, as far east as to the tribes of the Mississippi Valley.

The engineering skill and enterprise of this little nation are marvelous. Although their appliances are rude, they are able to construct large dams, and dig or build deep irrigating canals, or durable aqueducts, which often pass through hills, or follow considerable heights along shelves of rock or talus, at the bases of the rugged and crooked walls of the cañon. The acequias, which have their fountain-heads in these canals and viaducts, are wonders of intricacy and regularity; yet on uneven ground are laid out in nice recognition of and conformity to unevenness and change of level in the surface they are designed to water.

Most wonderful of all, however, are their aerial trails. Through the western branch of the cañon, down from the Hua-la-pai country, the trail for horses as well as foot-travelers is over promontories, up shelves, along giddy narrow heights, in and out of recessions, or over stone-pecked slopes, such as would dismay civilized man, with all his means of moulding the rugged face of nature. At times, so impossible does it seem for any living thing to pass further that nowhere can the trail be traced; when a turn to some crack in the rock, almost hidden by intervening bowlders, and hewn down with stone hammers to give precarious footing, shows where it goes up or descends. Great ingenuity is shown in continuing the trail along the

521 461 about the fire, and the visitor is scarcely distinguishable from the hostess, as she shares with her all duties in which the latter may be engaged. So also, when at work in the fields, the women are prone to gather in busy little groups, where their talk and merriment, free from the restraint of the men, are louder than about the household fire.

857 The children are always boisterously at play, the girls with the boys, and are touchingly affectionate toward one another. The youth gather on level spots and run races, or play games of chance by the hour. They are fond of displaying themselves on horseback; two, sometimes even three, mounting some little pony, and wildly galloping up and down the paths which thread the cornfields where the women and girls are at work. They improve their marksmanship and gain local celebrity, vying with one another in firing at the marks of nature's hand about the great cliffs of their subterranean home.

623 643 Councils among the members of the tribe are incessant, though very rarely attended by the chiefs in a body, and never, save on occasions of the utmost gravity, by the head chief, Ko-hót.

648 609 643 As illustrative of this, I may give the following example: When I entered the cañon, warned of the characteristics of the Ha-va-su-paí by Pu-lá-ka-kai, I made a rule, in the first council, that any trade sealed by the customary hand-shake and "*a-há-ni-ga*," or "thanks," should be regarded as final. During one of the four days of our stay, Pu-lá-ka-kai traded one of his jades for a quantity of things, among which was a famously large buckskin. The next morning, the evil-looking, one-eyed fellow who had purchased the horse returned to trade back, or have the difference split by a return of the buckskin. Pu-lá-ka-kai asked my permission, and I tersely refused. The man went away, soon coming back with a noisy, low-browed crowd, which increased in size and noisiness, until, to-

● [439]

[P.554B] ½ [i.e., horse. -Analyst]

The /99 cont./
131 inaccessibility of their cañon home has tended to keep them
177 immune from outside influences, so that in many ways their
342 life is still delightfully primitive. Their typical dwelling consists of a framework covered with brush or tule and sometimes with an outer covering of earth. In summer a four-post brush shelter is erected, which affords protection from the sun and allows free circulation of air.

262 The agave plant, cut and prepared in much the same way as by the Apache, has always been an important article of food among these people. Other native vegetal foods are grass seeds
224 and piñon nuts. From time immemorial the Havasupai have
[221] been hunters. On the approach of winter they left the cañon for the upper levels, built wickiups of boughs and bark, and spent the cold season in hunting. Deer were the principal game, although they killed some mountain sheep and an occasional black
[251] bear. Much of the venison was cut in thin strips and dried for
237 summer use. Deerskin dressed by the Havasupai was considered
281 the best by all neighboring tribes; consequently, it not only
[439] furnished clothing, but was an important medium of barter. But the life of the Havasupai has changed. Game is scarce, and
177 the Government does not willingly grant them permission to
224 hunt on the surrounding mesas, hence there is little wonder that
648 the wrinkled veterans long for the old days when game was plentiful and they hunted where they would. "Now all is changed," they say. "We cannot go out of the cañon without asking the white man. We dare not hunt deer, as the game must be saved for the Háiko. We are no longer men; we are like little children; we must always ask Washington!"

241 Corn is now their chief staple, besides which they raise
262 beans, squashes, melons, pumpkins, sunflowers, peaches, apricots,
171 and figs. They prepare corn in countless ways, corresponding
252 largely to those of the Hopi. In fact, the modes of preparing corn by all tribes of /100/ the Southwest are much the same. Much of the crop is allowed to ripen on the stalk; this is later ground into meal on the metate. Quantities of green corn are harvested, roasted in large pits with the husks on, and hung to dry. This may be ground or simply shelled and cooked, either alone or with beans, meat, and dried squash. Like the figs, their

/100 cont./ LIKE THE FIGS, THEIR
177 peaches and apricots were derived from the whites, but so long
245 ago that they are now regarded as native.

291 The aboriginal dress of the Havasupai was simple and rather distinctive. The one arbitrary garment for the men was, of course, the breech-cloth, all additions to which were an
[554] evidence of wealth and position. For the Havasupai shirt the foundation was a large deerskin with a hole cut in the middle, like a poncho. This was loosely fastened together at the sides and held close to the body with a belt. Stitched to it were loose, baggy sleeves, open under the arms as far as the elbows. Shoulder, sleeve, and side seams were freely decorated with deerskin fringe. The leggings, close fitting and fringed at the sides, reached to the hips and were met below with high-topped moccasins. A full suit required five good-sized deerskins. The
[302] men tied their long hair in a knot at the back of the head and cut the fore part in a low bang over the eyes. The principal garment of the women, which reached a little below the knees, consisted of two deerskins sewn together at the top and sides and with openings left for head and arms. It was liberally ornamented with fringe, worn sleeveless, and belted at the waist. Their boot-legged moccasins reached to the knees. The hair, cut in a
[302] bang over the eyes, hung loose and unkempt.

285 The arts of the Havasupai are seen at their best in the
●[439] basketry. Many of their tray-shaped baskets are used for barter with neighboring tribes, who know them as "Coconino." The
[415] same form, coated with earth, is used as a cooking utensil,
[251] water being boiled in them by the use of heated stones; the water bottle also is of basket-work, coated with piñon gum. A
482 coarsely woven, cone-shaped burden /101/ basket is carried on the back, supported by a strap passing across the forehead.
321 Spoons and small utensils were formerly made from mountain-
415 sheep horn.

622 Chieftainship is hereditary, the voice of the tribe determining which of the male relatives of the last incumbent is best fitted to rule. The present chief is Wimái, who succeeded Kóhat, familiarly known as "Navaho." Kóhat was considered by all who knew him to be a man of unusual strength of character, broad